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ABSTRACT

This article presents the results of an experiment that was set up to determine the effectiveness of a self-directed learning method in English for Special Purposes at the "Ecole des Mines" in France. A group of students devoted two of their allotted three-and-one-half hours per week to semi-autonomous work. Through a questionnaire, the students were asked to compare their year's work in semi-autonomy with the previous year's work in terms of the progress they had made and the pleasure they had experienced. The majority of the students found the program more effective and more pleasant than traditional methods, and half of them found it equally effective. A detailed discussion of the questionnaire and teacher's observations indicate that there were enough positive features to warrant further experimentation along the same lines. (AMH)

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MÉLANGES PEDAGOGIQUES 1979

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**EXTENDING C.D.L. IN AN ENGINEERING COLLEGE :
EXPERIMENT YEAR ONE**

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RESUME

Cet article présente les résultats d'une expérience destinée à déterminer l'efficacité pédagogique, dans le cadre d'une Grande Ecole, d'une stratégie d'apprentissage de l'anglais en semi-autonomie. Pour la majorité des participants, la méthode a laissé une impression d'efficacité particulière en ce qui concerne l'entraînement à l'expression orale. Un tiers des participants l'ont trouvée plus efficace et plus plaisante que les méthodes traditionnelles et la moitié d'entre eux lui ont trouvé une efficacité égale. Mais, si l'indépendance personnelle assurée par la méthode a été généralement appréciée, les retombées possibles de cette indépendance sur l'assiduité ont également été soulignées.

The setting up of the experiment referred to in the title of this article has already been described in some detail (Moulden, 1978) but a very brief account of it may not be out of place here.

As existing teacher-assisted self-directed learning of English at the *Ecole des Mines* in Nancy had, up to the time of this experiment, involved only a limited proportion of the students and personnel and had mainly been concerned with the training of listening comprehension, it was decided to try out a multi-skill self-directed learning method which, if successful, might serve as a basis for more widespread application of self-directed learning in the future. The group of thirteen students taking part in the experiment were of intermediate level. They were asked to devote two hours of their three and a half hours per week English allowance to semi-autonomous work, the remaining one and a half hours per week being reserved for a classroom session with the teacher. For

the semi-autonomous work each student was required to choose his own objectives, materials and methods. To help him do this he was given two home-produced booklets : *Objectives in English* and *Learning English on your own*. *Objectives in English* consisted of lists of *Ecole des Mines* objectives in reading and listening comprehension and in oral expression, while *Learning English on your own* contained an introduction to self-directed learning plus details of materials and methods available. The student could also consult the teacher during fortnightly twenty minute interviews destined to sort out problems and monitor progress. The classroom sessions were intended to provide an antidote to any loneliness suffered during semi-autonomous work and were aimed at stimulating the desire to communicate in English rather than at teaching specific language features.

Classroom activities were, in the main, of the games, simulations or problem-solving type. The particular importance, in a method where students were working alone for part of the time, of maximising oral communication led to two tendencies. Firstly, an ever-increasing use of activities involving work in pairs or small groups. Secondly, a more and more active and frequent (yet sparing) use of video as a means of motivating the use of oral skills. In particular, a number of video-based problem solving activities, some of them of a technical nature, were developed. Although the class was originally planned to last one and a half hours it was shortened, during the second half of the experiment, to one hour. This was done in order to be able to increase the length of the interviews from twenty to twenty five minutes, these having been found to be too short.

The interviews were also attended by some progress in maximisation of student talking time. Much of this progress was, had to say, quite simply effected by the teacher learning to severely restrain his tongue. It turned out that most of the students had no objection to being corrected on the spot. This obviated wasting time listening to and correcting recordings of the interviews. At the end of the interview each student was given a sheet listing errors he had made and linguistic information he had been given. A copy of this sheet was kept by the teacher so that the latter could check at a later date what learning had taken place. Most of the interviews having been recorded it was possible, during the second half of the experiment, to draw up an individual profile of oral expression problems for each student and to give advice on how to work on these problems. The sequence of events during an interview was (time permitting) :

- 1 - Discussion of problems encountered by the student during his previous two weeks work.

- 2 - Seeing what work had been done and what had been learned.
- 3 - Oral expression activities prepared by the student (e.g. mini-lecture, telephone simulation, etc.).
- 4 - Planning future work.

The aim of the experiment was to obtain information on the effectiveness of the new method relative to the more traditional teaching method in force at the *Ecole des Mines* and, with a view to wider application, to see if the former could be handled comfortably by part-time staff with not too much time to devote to preparation. Unfortunately, as far as the first and most vital question is concerned, it was not possible to perform the experiment in such a way as to obtain an objective comparison between the two methods (i.e. using a control group and progress tests). The main source of information available was the results of a questionnaire which the students taking part in the experiment were invited, near the end of the experiment, to fill in anonymously. In this questionnaire the students, who had already sampled traditional *Ecole des Mines* English tuition for one year, were asked to compare their year's work in semi-autonomy with the previous year's work in terms of the progress they felt they had made and any pleasure they might have experienced. They were also asked to compare the classwork and semi-autonomous work carried out during the experiment from the same points of view and to say which features of these two components they had felt to be good and which they had felt to be bad. To the students' impressions of the experiment as revealed by the questionnaire may be added those of the teacher and it is in this order that the results of the experiment will be presented. It must be emphasised, however, that any conclusions drawn from this experiment will be based on subjective (and hence possibly unreliable) data and that they are, of course, only relevant to the very limited context in which the experiment took place.

THE QUESTIONNAIRE AND THE ANSWERS OBTAINED

The number given after each answer is the number of students out of 13 who answered in that particular way.

General questions on this year's work in English

- 1 - How much progress do you think you made in English this year ?

More than last year	4
Less than last year	2
The same as last year	7

2 - If you feel you made less progress in English this year, to what do you attribute this ?

The teaching methods used this year 0
A reduction of effort on your part 2

3 - On the whole, did you find the work you did in English this year

More enjoyable than last year ? 8
Less enjoyable than last year ? 0
As enjoyable (boring) as last year ? 5

4 - Which method was more helpful in improving your spoken English ? Why ?

Last year's 1
This year's 11
No difference 1

5 - Would you like to carry on with semi-autonomous learning next year ?

Yes 9
No 4

About the Thursday morning class

6 - Did you find the class more or less useful than the semi-autonomous work you did ?

Class more useful 1
Class less useful 5
Class and semi-autonomous work
complementary 7

7 - Did you find the class more or less enjoyable than semi-autonomous work ?

Class more enjoyable 8
Class less enjoyable 3
Both equally enjoyable 2

8 - Do you think the class served any useful purpose ?

Yes 9
No 2
Don't know 2

9 - What was good about the class ?

- 10 - What was bad about the class ?
 11 - Suggestions concerning the class ?

About the semi-autonomous work

- 12 - Do you think that *Learning English on your own* gave you adequate preparation for semi-autonomous work ?

Yes 13
 No 0

- 13 - How often did you use *Learning English on your own* ?

Often 0
 Occasionally 7
 Never 6

- 14 - Did you find the supervision of your semi-autonomous work

Too *directif* ? 0
 Not *directif* enough ? 0
 Just right ? 13

- 15 - Did you find the interviews

Too long ? 0
 Too short ? 0
 Just right ? 13

- 16 - What was good about semi-autonomous work ?

Independence (choice of objectives, materials,
 time and speed of work) 8
 I talked more 4
 You *have* to work 3
 Interviews useful 2

- 17 - What was bad about semi-autonomous work ?

Temptation to idleness 7
 Discouragement when problems arise 3
 Less stimulating than classwork 3
 I talked less 2

- 18 - Suggestions concerning semi-autonomous work :

- 19 - Any other comments on the year's work :

DISCUSSION OF THE RESULTS OF THE QUESTIONNAIRE AND TEACHER'S OBSERVATIONS

The first question required the students, who were in their second year of English classes at the *Ecole des Mines*, to assess their progress during the year of the self-directed learning experiment with that made under normal teaching during their first year with us. This, of course, is the 64,000 dollar question and the answers to it need to be interpreted with some caution. First of all, the comparison the students were asked to make was not merely between two different teaching methods since they had not been exposed to the same teachers in first year as in second year. Thus, the differences in progress noted cannot be ascribed with any certainty to purely methodological factors as differences in the personalities and competences of the teachers involved may also have played a part. In addition, the students, with the best will in the world, may not necessarily have been very good judges of what progress they had made. What conclusions, then, may be drawn from the answers to this question?

Firstly, it should be noted that the two students who felt they had made less progress during the experiment than in the preceding year appended to their answer the observation that they had not worked so hard during the second year. This may be a reflection on the appropriateness of self-directed learning to less motivated students (in one case it was — the student later identified himself and explained that the partial suppression of a rigid timetable had led him into temptations to idleness to which he invariably succumbed) but it also suggests that one need not be too dismayed by these two negative answers. Secondly, the other answers indicate that about one third of the group felt they had made more progress with self-directed learning while about half of them found the new method neither better nor worse than the previous year's. Thus, although no really firm conclusions can be drawn as to the relative merits of the two methods, there does not seem, at least, to be any strong indication that the self-directed learning method used is any worse than the traditional *Ecole des Mines* methods and there is some indication that certain students (30 % of our sample) may get along better with it. The answers to questions 6, 7, 8 and 18 confirm that 4 of the group preferred self-directed learning to working in class.

Question 3, concerning enjoyment of the experimental year's work, was put to the students because it is often supposed that self-directed learning is necessarily less fun than classroom learning. (Whether having fun necessarily results in better learning is, perhaps, another matter). It is felt that the answers given to this question are fairly reliable. No great soul-searching or complex quantifying seem to be involved and although the writer, in all his modesty, was somewhat surprised by the absence of *less enjoyable than last year* answers

he is tempted to accept ever this result since this group seemed to be pretty forthright. They had not hesitated to protest when dissatisfied with a certain aspect of the teaching they had received the year before and did not mince their words when asked in the questionnaire to say what features of the experiment had displeased them. 8 of the students, then, found the self-directed learning experiment more enjoyable than the previous year's work and none of them admitted to enjoying it less. This seems to be a fairly satisfactory state of affairs. But at this point it is advisable to enquire into just *what* was found to be enjoyable. That the self-directed learning component of the experiment did not contribute enormously is shown by the answers given to question 7. Only 3 of the students enjoyed self-directed work more than classwork. (This does show, nevertheless, that self-directed learning *can* be more fun than classwork for some people). But 8 of them enjoyed classwork more which, while lending weight to the "self-directed learning is no fun" argument also suggests, when taken in conjunction with the 8 "more enjoyable than last year", that the efforts made to render the class activities entertaining were fairly successful and that it is possible to sugar the pill of self-directed learning in this way. It would be pleasant to be able to conclude this paragraph here, but it must also be pointed out that just over half the participants in the experiment felt moved to observe (question 17) that the self-directed learning part of their work provided dangerous opportunities for letting English slide and it must be confessed that this fact may not be entirely unconnected with some of the enjoyment experienced.

The overwhelming majority view that the self-directed learning experiment led to more progress in oral expression than had the previous year's work came as something of a pleasant surprise. This group was known to have been quite lively in the classroom during its first year at the *Ecole des Mines* and, consequently, it had been feared that the replacement of one of the twice-weekly classroom sessions by solitary work would produce a considerable sense of slowing down in this skill. The increase in progress was unanimously attributed to the interviews. These led, if not to more talking-time for everybody, at least to a fairer distribution of talking-time than occurred in the classroom. Thus, those students who habitually remained tongue-tied during whole-group class activities could not avoid speaking during a face-to-face with the teacher. As a matter of fact, a good proportion of the students who tended to be quiet in class seemed to compensate for this by a super-abundance of talkativeness at the interviews. The interview system was probably particularly appreciated by this kind of student. Not by everybody though. Two students reported that they had less chance to speak because of the semi-autonomous work (see the answers to Question 17). However, one of these two students explained on his questionnaire that his answer was due to a particular zest for conversation in a whole-group situation and admitted that he had probably had more than his fair share of talking-time the previous year.

The fact that 9 of the group wished to carry on with self-directed learning (Question 5) seems encouraging but the motives underlying this choice are not known. At the most, one half only of these students could have been motivated, wholly or partially, by a sense of more progress made with self-directed learning (see answers to Question 1). As 8 students had said that they had enjoyed themselves more during the experiment than during the previous year, it seems likely that a fair proportion of those choosing to carry on with self-directed learning were prompted by hedonistic reasoning. Nothing wrong with that, perhaps, but it did come to the ears of the writer that "some" of the students had been influenced by the thought that a vote for semi-autonomy would mean a reduction in hours of obligatory presence and surveillance at the college. This raises the question of whether unmotivated students learn significantly more during unwilling class attendance than during minimal self-directed work.

We come now to the questions concerning the classwork component of the experiment (Questions 6 - 11).

Only one student found the class more useful than semi-autonomous work (the one who enjoyed conversation in a big group). Of the others, 7 considered that classwork and semi-autonomous work were complementary and 5 found classwork less useful than semi-autonomous work. 4 students were not even convinced the class was at all useful.

The fact that 3 of the group actually enjoyed self-directed work more than classwork has already been mentioned in passing but may be reemphasised here. This finding is in agreement with previous CRAPEL experience; certain learners take up self-directed learning, not through lack of any other alternative, but simply because they like it better.

Some explanation of why 5 students found self-directed work more useful than classwork was found in the answers to the questions where the students were asked to comment on positive and negative aspects of the class. These showed that, despite the attempts made to liven up the class and provide opportunities for everybody to communicate, there were still complaints of lack of speaking practice and occasional boredom. Examples: "It's always the same people who do all the talking" and "The class has got to be interesting for everybody".

On the brighter side, the novel use made of video was appreciated by the majority of students. From the teacher's point of view, the technical problem-solving activities in particular had been very successful inasmuch as they had created some enthusiasm amongst a body of students who usually howl in anguish at the mere mention of Technical English. So the need to ginger up the classroom session brought about by the installation of self-directed learning gave rise to some useful spin-off in the way of new teaching material.

The next part of the questionnaire dealt with the self-directed learning part of the experiment (Questions 12 - 18).

All the students thought *Learning English on your own* had been an adequate preparation for semi-autonomous work. Nearly half of them only read it once, the rest only occasionally. It would be agreeable to be able to conclude from this that a competent author had been blessed with attentive and enthusiastic readers endowed with good memories. But, in fact, the methodological part of the booklet left very little impression on most of the students, who often needed reminding of its contents during their interviews. It may even be doubted, in the light of previous experience at the *Ecole des Mines*, whether some of them ever *did* read this part of the booklet.

The feeling of all the students that the degree of supervision of their self-directed learning had been just right is encouraging insofar as nobody complained that he had been abandoned by the teacher. Actually, no serious protests of this kind were anticipated since student autonomy plays a great part in the technical teaching policy of the *Ecole des Mines* to which these students had already been exposed for one year at the start of the experiment. But (again) the majority of the students needed a disappointingly large amount of supervision (harrassing might be a more appropriate word). Only three out of the thirteen showed any real independence in their choice of objectives and methods or any tenacity in pursuing the former.

Similarly, the 7 students who found the length (20-25 minutes) of the interviews just right is no cause for rejoicing. Twenty to twenty five minutes was adequate when not much work had been done, but otherwise this time was too short - in some cases even for dealing adequately with the problems encountered by the student. Thus, training in methodology and self assessment tended to be neglected and planning of future work done hastily and badly when the arrival of the next interviewee signalled that the interview was already at an end. The 6 students who found the interviews too short tallies with the proportion of reasonably conscientious students in the group.

Over half of the students mentioned their appreciation of the way self-directed learning let them choose their own objectives, materials and methods as well as place, time and frequency of work. Against this favourable reaction must be set the comparable proportion of students who commented on the opportunities for neglect of English which the method afforded to those so inclined either through lack of interest or through pressure of work in more important subjects. Slacking during self-directed learning is, however, more readily detectable than in the classroom and some of the students were not unimpressed by this. 23 % of the group felt self-directed learning actually made them work. There was a fair amount of comment to the effect that self-

directed learning was not very stimulating and that sometimes problems met with while working alone could lead to the work being abandoned. One or two students suggested here that these two problems might be overcome to some extent if self-directed learning were carried out in small groups.

So much then for the students' impressions of the experiment. Now, what about the teacher's?

Some disappointment from this side of the fence has already been voiced concerning lack of attention paid to the methodological advice given in *Learning English on your own* and the need to harrass unmotivated students. To this must be added a fairly general distaste for, and avoidance of, systematic work on necessary grammar and vocabulary and the fact that the time allowance for self-directed learning was, in the majority of cases, by no means fully used. An attempt was made to quantify very crudely the work done during self-directed learning by looking at each student's work record and guessing how many hours of work had been done. The quotient *hours of work done over hours of work which should have been done* turned out, on average, to be 0.4. On the face of it, this figure can hardly be regarded as being indicative of any great conscientiousness on the part of the students. In mitigation, it should be mentioned that a number of students observed, on their questionnaire, that semi-autonomous work required much more effort than classwork and was much more concentrated. One student felt that he achieved more in 15 minutes of semi-autonomous work than in an hour in the classroom. The fact remains, however, that the majority of the students were not pulling their weight.

But to put things into perspective, very few students of English at the *Ecole des Mines* (apart from beginners) show great enthusiasm for the subject. When enthusiasm does manifest itself, it is usually due to some pressing professional need, such as the imminence of a year's study in the USA. This general lack of interest in English is probably due in part to a preoccupation with studies more directly relevant to a future engineer and to the fact that being a naughty boy or girl in English seems to be, in itself, insufficient grounds for stopping anybody walking out of the place with a diploma under his or her arm. Thus, nothing startling in the way of motivation can reasonably be hoped for.

As far as the group taking part in the experiment is concerned, it can at least be said that the new way of working does not appear to have produced any marked reduction in effort (measured in terms of participation in class and attendance) as compared with that furnished by English groups expected to show comparable motivation (this latter being indirectly proportional to level and length of stay at the college).

But the self-directed learning part of the experiment was not, from the teacher's point of view, entirely a matter of disappointments. The blossoming-out, during the interviews, of the quieter personalities has already been mentioned. In addition, useful feedback on the classroom sessions was obtained in these one-to-one contacts, whereas the students were much less forthcoming *en masse* about their reactions to class activities. Also, the specific needs of each student imposed fairly rapid action in the matter of finding or creating materials and methods to match these needs. This led to the accumulation of a new stock of teaching tools which might otherwise never have been acquired and which proved to be useful elsewhere. Although this preparatory work was very time-consuming in the early stages, there was a considerable slacking off late on and over the year the preparation involved was no greater than for a conscientiously prepared normal class where not too much reliance is placed on a ready-made course. It seems possible, then, that supervision of self-directed learning could be undertaken by *enthusiastic* part-time staff once a pool of materials/methods sufficient to meet the majority of individual learner requirements has been built up. Another positive feature of the experiment was that the more personal contact between teacher and student allowed better assessment of each student in terms of his efforts, achievements and personality. Finally, this closer relationship gave no small satisfaction to the teacher; satisfaction both personal and pedagogical.

CONCLUSION

The chief aim of this experiment was to get an idea of whether the self-directed learning method employed was likely to give better results than the traditional classroom teaching methods in use at the *Ecole des Mines* in Nancy.

Obviously, the small scale nature of the experiment and the unsophisticated nature of the method of assessment employed preclude the drawing of any firm conclusions but, nevertheless, indications of positive and negative features have emerged.

On the credit side it would seem, if the judgement of the students involved is to be trusted, that the method is, at the worst, no less effective than the existing methods. For the majority of the students, the method was felt to have led to more progress in the speaking of English and about a third of them considered the method to be both superior to, and more enjoyable than, traditional work. Two thirds of the students welcomed the independence the method gave them and a quarter of them felt the method ensured they did more work. Students habitually reluctant to participate verbally in class were given, and usually took, the chance of making up for lost time during the interviews. From

the teacher's point of view the method gave much more job satisfaction and, although demanding, was not unduly so. It produced a fair amount of teaching materials spin-off and allowed better assessment of the students.

On the debit side, some students reported that self-directed learning was less stimulating and more productive of discouragement than normal classwork. If the advantages of independence were savoured by two thirds of the students, a comparable proportion of them mentioned the perils of the ease with which English could be dropped in favour of anything more pressing. On average, less than half the time allocated to self-directed learning was used. Only three students out of thirteen took their work anything like seriously. The time allowed for interviews was often too short.

Despite the problems posed by the self-directed learning method investigated, there would nevertheless seem to be enough in the way of positive features to warrant further experimentation along these lines. It seems likely that the method will give good results with students who are motivated and keen on self-directed learning (and who might be identified in first year and given the chance of working in this way during the subsequent two years) but only a more rigorously conducted, long term comparison with normal *Ecole des Mines* methods backed up by more detailed questionnaires will give reliable information on the relative merits of the two systems in the case of less motivated students. The idea of self-directed learning in small groups seems interesting. A method combining classwork, individual self-directed learning and small group self-directed learning might well bring about an improvement. This latter activity would increase opportunities for communication in English and should go some way towards eliminating complaints about lack of stimulation and too much discouragement in individual self-directed learning. It might even lead to a bit more work being done. More preparation and practice in self-directed learning techniques also seems to be needed. Future work will be aimed in the directions outlined above.

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